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STEEL & MINES DEPARTMENT

NOTIFICATION

The 28th February, 2022

No.1824-IV(A)SM-33-2020/SM.— Whereas, the Odisha Mineral (Prevention of Theft, Smuggling and Illegal Mining and Regulation of Possession, Storage, Trading and Transportation) (Amendment) Rules, 2021 (hereinafter referred to as the OMPTS (Amendment) Rules, 2021) has been notified vide Steel & Mines Department notification No 3803, dated the 16th April, 2021 published in Extraordinary Gazette No 652, dated the 16th April, 2021.

And, whereas, the State Government have decided for modification of stacking and sampling exercise to be carried out for removal/transportation of minerals from the mines sources.

In the Operational guidelines for Stacking, Sampling and Chemical Analysis for Grade determination under provisions of Transportation of minerals, Chapter (3), Rule (10), of the OMPTS(Amendment) Rules 2021, the State Government do hereby issue the following directions, namely:—

1. **For clause (4)**, the following shall be inserted after NVR Network Video Recorder, namely: —

RFID	Radio-frequency identification
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2. **For clause (5):-**

- in sub-clause (2), for the words “using QR codes”, the words “using RFID tags” shall be substituted;
- after sub-clause (3), the following clause shall be inserted, namely: —

4	Receive the sample in the DDCA Govt. Lab or Lessee Private Lab	It states that the lab personnel shall be given an online provision to receive the sample for chemical analysis. These provisions are given online in the Mobile App.
5	Report damaged RFID tag	It states that the lab personnel shall be given an online provision to report the damaged RFID tag of a sampling bag. The bag may be primary or secondary sample. These provisions are given online in the Mobile App.

iii. **for sub-clause (4)**, the following clause shall be substituted, namely: —

6	Application for approval of Chemical Laboratory	It states that the lessee or its authorized agent shall be given an online provision in the i3MS web application to apply for approval against a NABL accredited testing laboratory established by the lessee(s) for the chemical analysis and subsequent grade determination of a sample duly collected on the basis of the application in FORM S Part 1 followed by request for chemical analysis in FORM S Part 2.
7	Stack Rejection by JMO	It states that the JMO shall be given an online provision in the mobile application to reject a stack if it's not as per prescribed guidelines. The JMO is required to submit an image of the stack along with his/her observations in the remarks section. On rejection the Lessee shall be required to address the concerns raised by the JMO and submit a new Sampling request.
8	Sample rejection by DDCA Personnel	It states that the DDCA lab personnel shall be given an online provision in the i3MS web application to reject a sample if it feels the sample bag is tampered with. The DDCA Lab Personnel is required to submit an image of the bag along with his/her observations in the remarks section. On rejection the Lessee shall be required to submit a new Sampling request.

3. For clause (7):-

i. **in subclause (b)(vii)**, after the words “submission of the FORM S Part 1,” and before the words “each stack will be auto-assigned” the words “a unique 4 digit code will be auto-generated against the stack and ” shall be inserted;

ii. in sub-clause (c):-

i. In the first provisio, after the words “install video cameras” the words “/drones” shall be inserted;

ii. After sub-clause (ii), the following clause shall be inserted namely:-

“iii. The JMO on reaching the mine site will inspect the stack. If the stack is not as per prescribed guidelines the JMO will reject the stack. While rejecting the stack the JMO

will need to submit an image of the stack along with his/her observations in the remarks section.”

“iv. The Lessee will have to address the concerns raised by the JMO and submit the Sampling Request using Form S part 1 again.”;

iii. For sub-clause (iii), the following shall be substituted, namely:-

“v. If the stack is as per the prescribed guidelines, the JMO will proceed to capture a full-stack photo and will activate the inspection process for a stack. The inspection will only be activated once the mobile app detects the presence of the JMO within the geo-fence of the stack i.e. the predetermined proximity of the stack and the captured image. The JMO must be at 1ft from the toe of the stack.”;

“vi. Post successful activation of the inspection, the JMO continues the rest of the process of sample collection through the mobile app after clicking on the “Generate Sectioning Points” process”

iv. For sub-clause (v), the following shall be substituted,namely:-

“vii. The JMO is prompted by the mobile app to activate the AR (Augmented reality) Camera and proceed to the base of the stack”;

v. For sub-clause (vi):-

1. the firstprovisio shall be substituted with, “viii. Thereafter the JMO is required to perform the following steps for each of the 4 sides of the base of the stack individually”;

2. the sub-clause (2), sub-clause (3), the sub-clause (4) shall be substituted namely:-

“2. The mobile app will automatically generate the sectioning sampling points for a side on the fly with a distance of 5m-8m between them as the mobile holder traverses the side. The point as and when generated will be visible via the AR camera as blue-colored cyber-physical anchors super-imposed on the stack surface.”;

“3. The JMO, while keeping the AR camera opened will be required to create a marking using chalk powder/flag posts for the generated sampling point while traversal.”;

“4. Post marking the holder of the phone will then click a picture of the sampling point generated.”;

vi. For sub-clause (vii), the words “vii. The lessee or his authorized agent” shall be substituted with “ix. The JMO”;

vii. For sub-clause (viii), the sub-clause no “viii.” shall be substituted with sub-clause no “x.”

viii. For sub-clause (ix), the sub-clause no “ix.” shall be substituted with sub-clause no “xi.”

ix. For sub-clause (x), the sub-clause no “x.” shall be substituted with sub-clause no “xii.”

x. For sub-clause (xi), the sub-clause no “xi.” shall be substituted with sub-clause no “xiii.”

xi. For sub-clause (xii), the sub-clause no “xii.” shall be substituted with sub-clause no “xiv.”

xii. For sub-clause (xiii), shall be substituted with namely: —

“**xv.** Then the next step in the process called “Trenching sample collection” is to be activated. The samples will have to be collected through trenching from the marked points. While collecting from each point it is required to click pre and post pictures of the point of collection as prompted by the app.”

xiii. For sub-clause (xiv), the sub-clause no “xiv.” shall be substituted with sub-clause no “xvi.”

xiv. For sub-clause (xv), the sub-clause no “xv.” shall be substituted with sub-clause no “xvii.”

xv. For sub-clause (xvi), the sub-clause no “xvi.” shall be substituted with sub-clause no “xviii.”

xvi. For sub-clause (xvii), shall be substituted with namely: —

“**xix.** The JMO then activates the bagging process on the mobile app. RFID tags will be used in this process”;

“**xx.** The bagging screen will display the unique 4 digit code that was generated on the successful submission of Form S Part 1. ”

xvii. The sub-clause(xviii), sub-clause (xix), sub-clause(xx) shall be substituted with namely:-

“**xxi.** The JMO will then oversee the equidistributed bagging of the samples in 3 non-woven fabric bags of 3.3 Kgs each. RFID tags will be used for each of the sample bags. In case the nature of mineral is Lumps, then the collected sample will have to be crushed and then bagging process shall be carried out for the same.”;

“**xxii.** The JMO will be required to scan the RFID tag against the corresponding sample bag. On successful scanning, the JMO will color code the RFID tag for each of the samples using a marker - red for primary, blue for secondary, and green for the umpire samples”;

“**xxiii.** The JMO will then stamp the unique 4 digit code displayed in the bagging screen to the back of each of the RFID tags using a stamper with indelible ink.”;

“**xxiv.** The JMO will ensure that the RFID tags are properly secured onto the tamper-proof zip ties and the non-woven fabric bags containing the primary, secondary and

umpire samples are secured properly with these zip ties. (For specifications of the type of bag to be used, zip ties, RFID tags, stamper please refer to **Annexure A**);

xviii. For sub-clause (xxi), the sub-clause no “xxi.” shall be substituted with sub-clause no “xxv.”

xix. For sub-clause (xxii), the words “(xxii) The JMO and lessee is” shall be substituted with “xxvi. The JMO”;

xx. For sub-clause (xxiii), the sub-clause no “xxiii.” shall be substituted with sub-clause no “xxvii.”

xxi. The sub-clause (xxiv), shall be substituted, namely:-

“**xxviii.** The Lessee is required to ensure that the recording feature of the camera/drone is enabled/running during the entire duration of the sampling process and the same shall be available/archived with the timestamp for 3 months.”

iii. The sub-clause (d), sub clause (e) shall be substituted with, namely:-

“d. REQUEST FOR CHEMICAL ANALYSIS OF THE SAMPLE

The request for chemical analysis shall be processed through the lessee’s i3MS web application login and the approval thereof will be processed through the DDCA’s web application login.

i. The lessee or his authorized agent has to request for “chemical analysis” in FORM S Part 2 (The format for the same is captured in **Annexure D**).”;

“e. RECEIVE SAMPLE FOR CHEMICAL ANALYSIS: The recommended first step will be to go to Google Play store to download the DDCA mobile app. The minimum specifications of the mobile device on which the mobile app can function are provided in **Annexure A** of this Operational Guideline. The multiple steps in this process are highlighted in **Annexure D** for further elaboration.

i. The Lab personnel will be required to log in to the mob app using the i3MS username and password.

ii. If the RFID tag is intact the lab personnel will have to scan the RFID tag before opening the bag and receive the sample.

iii. If the RFID tag is damaged the Lab personnel will have to request for encryption key using the Request token for Damaged RFID screen by entering the unique 4 digit code present at the back of the RFID tag along with an image of the damaged RFID tag.

- iv. On entering the encryption key received in SMS, the Lab Personnel will receive the sample.”;

“f. SAMPLE REJECTION BY DDCA LAB PERSONNEL:-If the DDCA Lab Personnel is suspicious about the sample bag submitted it can reject the sample.

- i. If the DDCA Personnel feels that the sample bag has been tampered with it will reject the sample. While rejecting the stack the DDCA Lab Personnel will need to submit an image of the bag along with his/her observations in the remarks section.
- ii. The Lessee will have to address the concerns raised by the DDCA Lab Personnel and submit the Sampling Request using Form S part 1 again.”;

“g. ASSIGN GRADE AFTER CHEMICAL ANALYSIS:-

i. Secondary Sample:-

1. After receiving the sample the Lab Personnel will have to conduct chemical testing of the sample.
2. The DDCA will have to upload the result of analysis in the system.
3. In the i3MS system, Form K for the secondary sample will be auto-generated.
4. In the I3MS system, Form K will be auto-generated.

ii. Primary Sample:-

1. The chemical analysis of the primary sample shall be carried out by the lessee or his authorized agent in the Laboratory duly approved by the Director of Mines.
2. On Completion of the same, the lessee or his authorized agent will upload the result in the system and Form K for the primary sample will be auto-generated.”;

“h. CREATING NEW STACK AT SAME LOCATION:-

- i. If the Lessee wants to create a new stack in the same location, the Lessee will have to upload a photo of the evacuated stack.

“i. REQUEST FOR APPROVAL OF CHEMICAL LABORATORY

The request for approval of Lab can be processed through the lessee’s i3MS web application login.

- i. The lessee can apply in FORM Q for approval of the NABL accredited Lab, established by him.

ii. The lessee may also apply to have his testing done in an approved lab of another nearby mine in the same FORM Q. In such cases, the lessee of the other mine will need to acknowledge and provide a NOC for the usage of their lab by the applicant lessee.

iii. After the initial inspection of the lab by District Competent authorities and verification by the Additional Director of Mines, the FORM Q application goes to Director Mines for approval and can be tracked by the lessees for further action.

iv. Inspection of the lab, if required, will be carried out before approval by the Director of Mines.

v. Upon approval, the applicant Lessee is notified and a LAB PERMIT is generated for the same

vi. This approval is a one-time activity, however, an application flow also exists for the withdrawal of this request.”;

“j. HANDLING FORM S REQUESTS AT THE END OF THE MONTH:-

i. The Assigned JMO has to finish the inspection of the Stack if the corresponding Form S request is in progress.

ii. The not started Form S requests shall be auto-assigned to the JMO of the following month.”;

By Order of the Governor

D.K. SINGH

Principal Secretary to Government

1. The clause (1) shall be substituted with, namely: —

“1. JMO Device:

- a. RAM – 8GB
- b. Internal Memory – 64 GB
- c. Camera – 12 Mega Pixel
- d. Processor - Snapdragon 870+ / Exynos 2100
- e. OS - Android 10+
- f. GPS – Dual band (L1+L5)
- g. NFC Enabled
- h. AR Core supported
- i. Reverse charge support for cooling fan.
- j. Cooling fan to be used for overheating preferably of the Back Clip type”;

2. After clause (1), the following clause shall be inserted, namely: —

“2. Lab personnel Device:




- a. Android API Level 24+
- b. RAM – 8GB or higher
- c. Internal Memory – 64 GB or higher
- d. Camera – 108 MP or higher
- e. Processor – Snapdragon 865/Snapdragon 888/Exynos 2100
- f. OS - Android 10 or above
- g. GPS – Dual band (GLONASS, BEIDOU, GALILEO, NABIC)”;

3. For clause (2):-

- a. clause no “2.” shall be substituted with clause no “3.”
- b. The following shall be substituted after sub-clause (f), namely
 - “g. GPS – Dual Band (L1+L5) if the desired accuracy while marking points is 10 mtrs”;
 - “h. External hand held GPS device to be used along with mobile device if the desired accuracy while marking points is 10 mtrs”;

4. The clause no “3.” shall be substituted with clause no “4.”

5. The clause no (4), clause no (5), clause no (6), clause no (7) shall be substituted with namely:-

<p>5. RFID tag Specifications</p> <ul style="list-style-type: none"> a. Type: Proximity tags - Cable tie Tag ID4 with HF Chip b. Material: Strap/housing: polypropylene (PP) c. Warranty: Warranty: 12 months 	
<p>6. Digit Rubber Stamp</p> <ul style="list-style-type: none"> a. Traditional 4 digit rubber stamp b. Heavy-duty steel frame stands up to active use c. Requires a separate ink pad d. Type Size: 3 e. Built to handle big numbering jobs 	
<p>7. Indelible Ink</p> <ul style="list-style-type: none"> a. Colour: Blue 	

ANNEXURE- A1

- The following shall be added after clause 9 in the last proviso, namely:—
“The video footage should be archived for at least 3 months.”;
- The below clause shall be added after the image in Annexure A1 and before the start of Annexure B1, namely:—
“Drone Guidelines:
 1. Drones with high resolution camera should be used for the videography.
 2. The video recording feature for the drone should be on while capturing the entire Sampling process.
 3. The drone must be placed in such a way during the sampling procedure that the sampling process should be clearly visible in the recording.
 4. The video footage should be archived for at least 3 months
 5. Below is the reference image for drone:-“

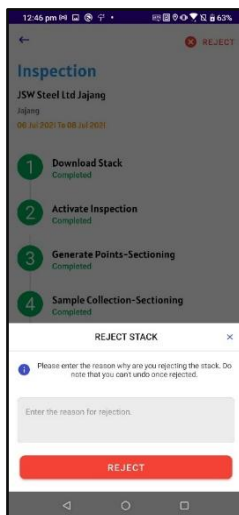


1. Step 4 shall be substituted with namely:—

- 4) JMO selects a particular stack from the assigned Form S, the JMO shall be able to see the various steps associated with the Sample Procedure for the stack and as well as the status of each of the processes. Since none of the steps have been initiated everything in the below image shows up as incomplete.

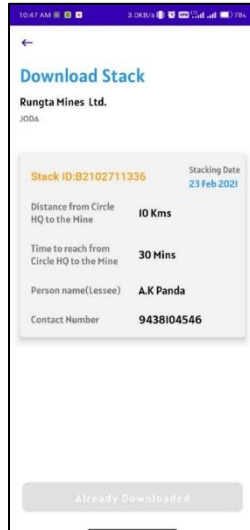


the Reject option to reject the Stack by providing the remarks if it is not as per prescribed guidelines

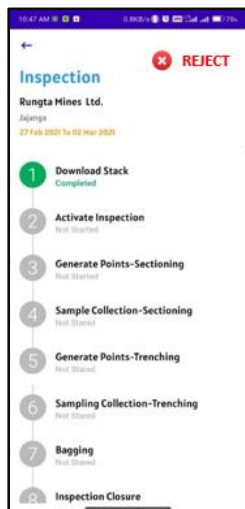


2. Step 5 and step 6 shall be substituted with namely:—

- 5) JMO downloads the stack information from the Download Stack Information screen. This shall be done when within the network. The same information shall be available later at the Sampling site in the offline mode. The screen for the Download stack is shown below



On completion this process comes up as completed.



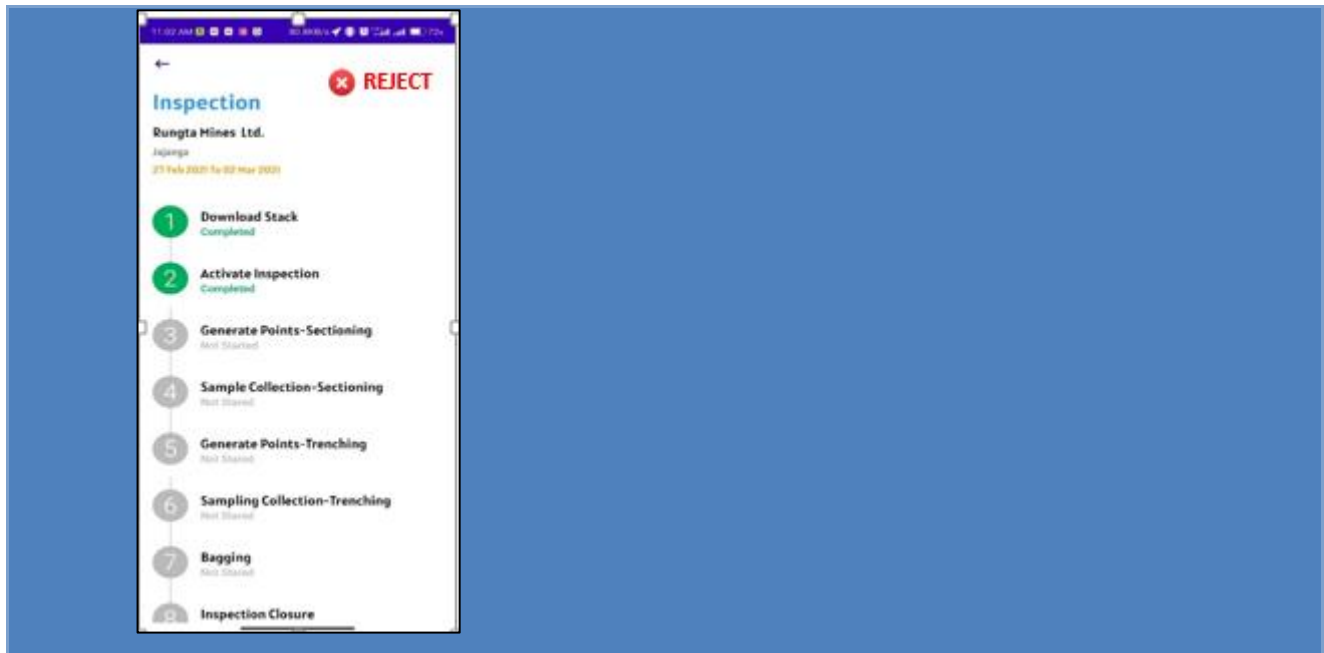
- 6) On the successful download of Stack Information, the JMO shall visit the stacking site. Once at the site, the JMO will capture the full-stack photo and the JMO shall try to activate on-ground inspection. If outside the geo-fenced stack the activation will not be successful and shall throw an error message stating as shown below.



But if the JMO is inside the geo-fenced stack then the activation shall be successful as shown below



Once the activation is done successfully the process shall show as completed as shown below



3. The last image in Step 7 shall be substituted with the below image: —



4. The last image in Step 8 shall be substituted with the below image: —



5. The last image in Step 9 shall be substituted with the below image: —

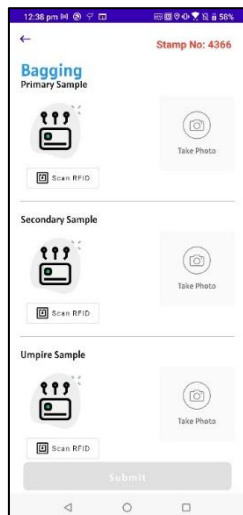


6. The last image in Step 10 shall be substituted with the below image: —



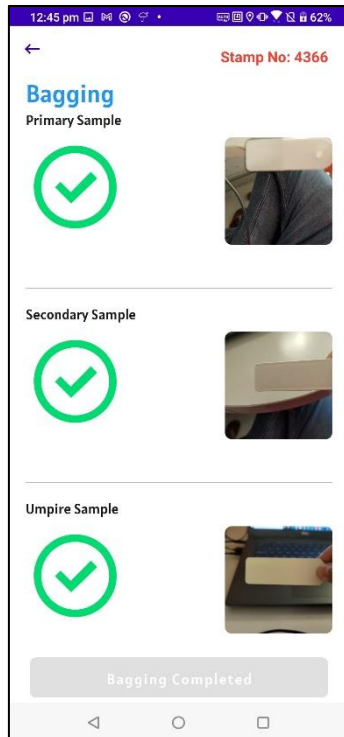
7. Step 11 shall be substituted with namely: —

- 11) Once the sample collection is done, the samples are mixed and divided into three parts – Primary, Secondary & Umpire. Each shall be bagged in a separate bag and the mobile app shall have the functionality to scan the RFID tag associated with each sample bag



Once the RFID tag is scanned the JMO will stamp the 4 digits unique code displayed in the bagging screen at the back of the RFID tag using indelible ink and the stamper.

The JMO will also capture a photo of each of the RFID tags



Once the bags are sealed and the images of the same are captured from the camera the process comes up as completed.



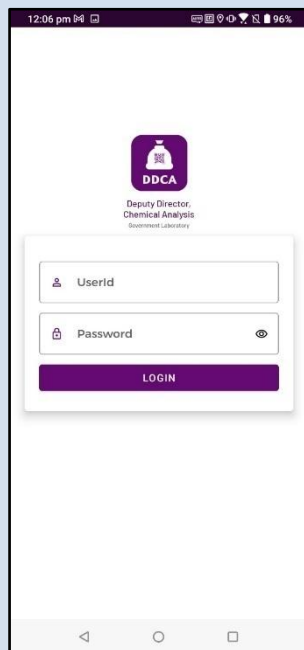
8. The image in Step 13 shall be substituted with the below image:—



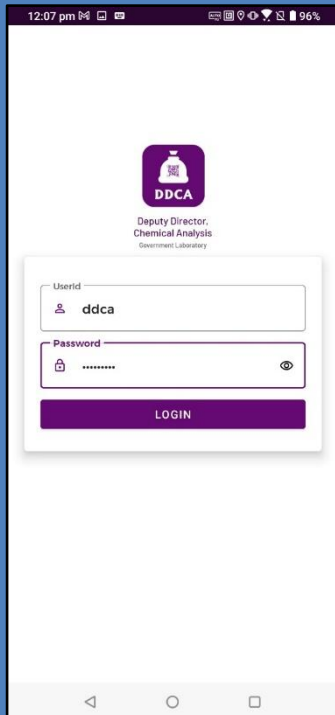
9. After step 17 the below steps shall be inserted: —

18) Once the Lessee submits the Chemical Analysis Request the Lessee will submit the sample bags in the lab.

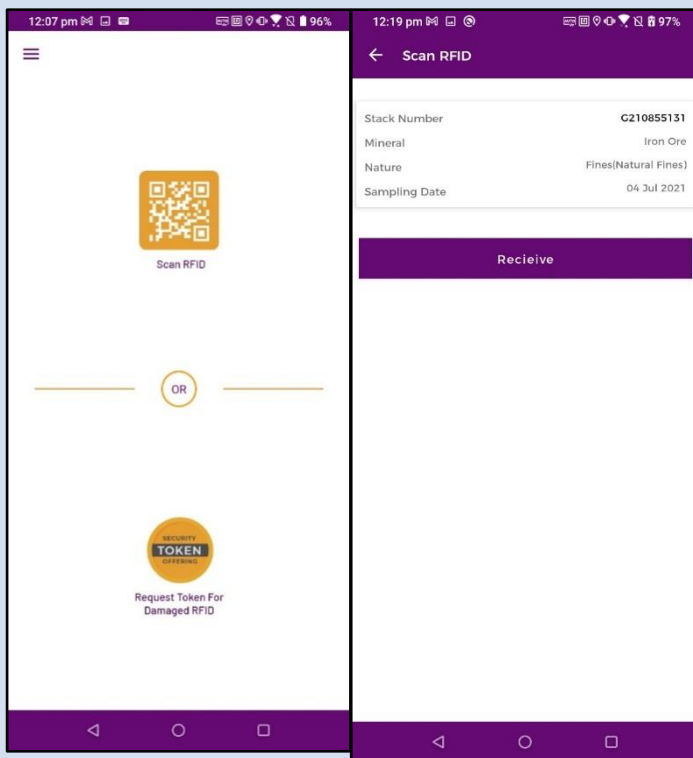
19) On receiving the sample the Lab Personnel will open the Mobile app



20)

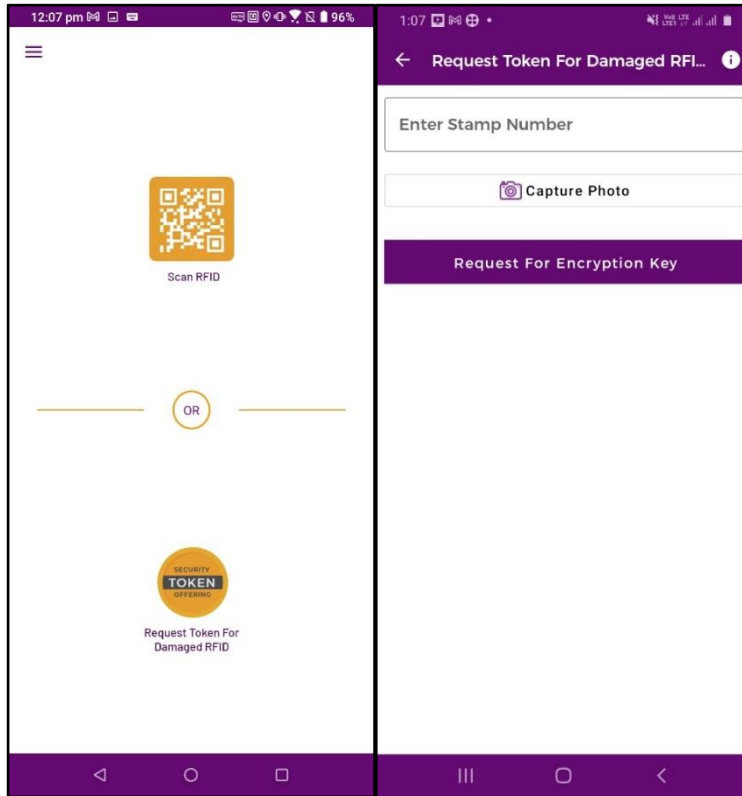
The Lab Personnel will log in to the app using the i3ms credential

21)

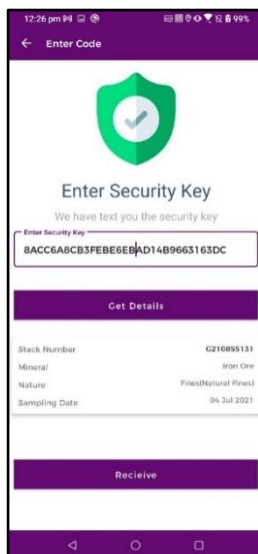
If the RFID tag is intact the Lab Personnel will receive the sample by scanning the RFID tag

22)

If the RFID tag is damaged the Lab personnel will have to request for encryption key using the Request token for Damaged RFID screen by entering the unique 4 digit code present at the back of the RFID tag along with an image of the damaged RFID tag.



On entering the encryption key received in SMS, the Lab Personnel will receive the sample.



23)

The Lab Personnel logs to the i3MS web application to assign the grade

NEW REQUEST VIEW STATUS (*) Indicates mandatory

Circle* -Select-

Lessee Name Select

Request No.

SEARCH

All Results 1 - 1 Of 1

S/N	Request No.	Lessee Name	Applied Date	No. of Stack (s)	No. of Approved Stack	View Details	Action
1	RD210855131106	JSW Steel Ltd Jajang	20 Apr 2021	1	0	View Form 5	Assign Grade

24)

The Lab Personnel will select the stack and assign the grade against the stack

Form 5 (RD210855131106) Details - Part II (*) Indicates mandatory

Lessee Name JSW Steel Ltd Jajang Lessee Code 075813569402

Request No. RD210855131106 Mineral Name Iron Ore

Applied Date 20 Apr 2021

All Results 1 - 1 Of 1

S/N	Query No.	Nature	Stack No.	Base Length (in Mts)	Base Breadth (in Mts)	Height (in Mts)	Top Length (in Mts)	Top Breadth (in Mts)	Cubic Content	Conversion Factor	Quantity in Tonnes (in MT)	Grade Of Mineral
1	1234	Crushed Fines	D210855131	22.00	9.90	3.00	18.00	5.00	653.40	2.10	1372.14	51

Remarks* ok

(Minimum Characters 40, 60)

SUBMIT CANCEL

Confirm

25)

Sample Rejection by DDCA – The DDCA Lab Personnel will login to the i3ms web application and select the Reject Sample option under Sampling. Then it will enter the stack no corresponding to the sample to fetch the stack details.

i3MS Department of Steel & Mines

Stack Id D210855131

Sampling Reject Sample

26)

On fetching the stack details the DDCA enters the remarks along with an image of the RFID tag and selects Reject option.

i3MS
Department of Steel & Mines

Sampling
Reject Sample

Stack Id

Sir	Request Num	Stack No.	Quantity	Nature
1	RD210855131106	D210855131	1372.14	Crushed Fines

Remarks

Attachment